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Task 2550

FACSIMILE TRANSMITTAL

DATE: 8/28/06 No. of Pages (Including Cover) 11

TO: Dave Darby

COMPANY: UDOGM

FROM: Vicky Miller

REMARKS: Chapter 7 Changes
& RA Attachment 7-3

720 ENVIRONMENTAL DESCRIPTION

721 General Requirements

This section presents a description of the pre-mining hydrologic resources within the permit and adjacent areas that may be affected or impacted by the proposed coal mining and reclamation operation.

Reference RA Attachment 2-3 for soil information, pictures and drawings and RA Attachment 7-3, Addendum A for hydrologic information pertaining to the soil borrow area to be used for reclamation of the refuse pile.

722 Cross Sections and Maps

722.100 Location and Extent of Subsurface Water

No seeps or springs are present in the immediate area of the refuse pile site. Three monitoring wells were installed in the site area (see RA Plate 7-1). The completion details of these wells are discussed in Chapter 6, RA Attachment 6-1of this submittal.

722.200 Location of Surface Water Bodies

Dugout Creek is located to the east of the refuse pile between an 1/8 and 1/4 of a mile. Due to the distance to the creek, no impact to this stream is anticipated.

722.300 Locations of Monitoring Stations

Two surface water monitoring stations have been located for the refuse pile area (see RA Plate 7-1). These stations are discussed in Section 731 of this submittal.

surface. Prior to construction of the ditches, a temporary interim berm will be constructed upstream of the below-grade storage area to divert water to the sediment pond (RA Plate 7-1)

Once the runoff- and sediment-control facilities outlined in Section 732 have been installed, these structures will prevent additional contributions of suspended solids to streamflow outside the permit area. A description of sediment control following reclamation is presented in Sections 540 and 760 of this submittal and the approved M&RP.

Reference RA Attachment 7-3, Addendum A for hydrologic information pertaining to the soil borrow area.

731.200 Water Monitoring

Groundwater Monitoring. Groundwater monitoring associated with the refuse pile will include quarterly water level measurements. In accordance with Table 7-4, Groundwater Monitoring Program of the approved M&RP, Wells DH-1, DH-2 and DH-3 will be monitored using Protocols A, 1. Water quality samples will be obtained quarterly from DH-1 beginning in the first quarter of 2003 and ending the 4th quarter of 2004. Thereafter, a water quality sample from DH-1 will be taken annually, until bond release. The samples from DH-1 will be analyzed for the parameters listed in Table 7-4, "Groundwater Monitoring Program". At least one borehole volume of water will be removed from the well prior to obtaining the water sample for analysis. Water level data collected through the first quarter of 2002 are presented in RA Attachment 7-1.

Should the subsoil stockpile be moved to the area of Well DH-2, the casing will be elevated above the stockpile to allow for continued monitoring (RA Plate 7-1).

Surface Water Monitoring. Two surface water monitoring sites are located in the refuse pile area (see RA Plate 7-1). These stations are located on the ephemeral drainage to the west and southwest of the pile. One point is located upstream of the pile, while the second point is located downstream of the site at the county road crossing. These stations are monitored to evaluate

Stream Channel Diversions. No stream channel diversions are planned for this site.

Buffer Zone Designation. No buffer zone designation is necessary at this site.

731.700 Cross Sections and Maps

RA Plate 7-1 shows the location of each monitoring station and the watershed boundaries for the area watersheds. RA Plate 7-1 shows the proposed location of the diversion ditches and culverts and sediment pond associated with the refuse pile area. RA Plate 7-2 presents the design details of the sediment pond with appropriate cross sections of the pond and embankment.

731.800 Water Rights and Replacement

No surface or groundwater sources are located within the refuse pile area.

732 Sediment Control Measures

The sediment control measures within the refuse pile area have been designed to prevent additional contributions of sediment to stream flow or to runoff outside the permit area. In addition, they have been designed to meet applicable effluent limitations, and minimize erosion to the extent possible.

The structures to be used for the runoff-control plan for the permit area include disturbed and undisturbed area diversion channels, a sedimentation pond, berms, silt fences, and road diversions and culverts.

At the soil borrow area "during soil removal and reclamation activities a combination of sediment control methods will be used. Before commencing any soil removal activities silt fences will be installed down gradient of any areas to be disturbed. After installation of the silt fences the top twelve inches of soil will be pushed into berms around the site. (RA Attachment 7-3, Addendum A)"

See Following Page

Additional hydrologic information pertaining to the soil borrow area is provided in RA Attachment 7-3, Addendum A.

732.100 Siltation Structures

The siltation structure within the permit area is a sediment pond as described in Section 732.200. In addition to the sediment pond, a berm encircles the topsoil/subsoil stockpiles, providing treatment and total containment of the runoff from the stockpiles (RA Attachment 7-3). Typical cross sections of the ditches, berm and containment area are located in RA Attachment 7-4.

732.200 Sedimentation Ponds

There is a single sedimentation pond operating at the refuse pile site. The sedimentation pond topography and cross sections are presented on RA Plate 7-2 of this submittal. Details regarding sedimentation pond design are presented in Section 742.100 and RA Attachment 7-2. The sedimentation pond is defined as a Class A pond in accordance with TR-60 (U.S. Soil Conservation Service, 1976). A clean-out marker will be installed in the sediment pond.

The sedimentation pond is within the disturbed area boundary and is subject to final reclamation. The area is included in the calculation of the disturbed area subject to bonding and in the calculation of final reclamation costs.

Compliance Requirements. The sedimentation pond will be maintained until removal in accordance with the reclamation plan (see Section 540 of this submittal). When the pond is removed, the land will be revegetated in accordance with the reclamation plan defined in Section 540.

MSHA Requirements. MSHA requirements defined in 30 CFR 77.216 are not applicable since the sedimentation pond will not impound water or sediment to an elevation of 20 feet or more above the upstream toe of the structure. The pond will have a storage volume of less than 20 acre-feet.

734 Discharge Structures

Discharge structures within the refuse pile area will consist of the emergency spillway on the sedimentation pond. All discharge structures will be constructed and maintained to comply with R645-301-744.

Reference RA Attachment 7-3, Addendum A for hydrologic information pertaining to the soil borrow area.

735 Disposal of Excess Spoil

There will be no excess spoil generated in the refuse pile area.

736 Coal Mine Waste

Coal mine waste generated by the Dugout Mine, will be stored and disposed of as described in Chapter 5 of this submittal.

737 Noncoal Mine Waste

Noncoal mine waste will be stored and disposed of as described in Chapter 5 of the approved M&RP.

738 Temporary Casing and Sealing of Wells

Each groundwater monitoring well identified on RA Plate 7-1 will be operated and maintained as described in Section 748.

740 DESIGN CRITERIA AND PLANS

741 General Requirements

752.200 Road Drainage

Runoff from temporary roads will be treated through siltation structures which will be located, maintained, constructed and reclaimed according to plans and designs presented in Sections 732, 742, and 763 of this submittal and the approved M&RP.

753 Impoundments and Discharge Structures

Impoundments and discharge structures will be located, maintained, constructed and reclaimed as described in Sections 733, 734, 743, 745, and 760 of this M&RP.

754 Disposal of Excess Spoil, Coal Mine Waste and Noncoal Mine Waste

Disposal areas for coal mine waste and noncoal mine waste will be located, maintained, constructed and reclaimed as described in Sections 736, 737, 746, 747, 760 and Chapter 5 of this submittal and the approved M&RP.

755 Casing and Sealing of Wells

All wells will be managed as described in Sections 551, 748 and 765 of this submittal.

760 RECLAMATION

761 General Requirements

A detailed reclamation plan for the mine is presented in Section 540. In general, CFC will ensure that all temporary structures are removed and reclaimed. Other than for restoration of natural drainage patterns, no permanent diversions are included in the reclamation plan. Reference RA Attachment 2-3 for soil information, pictures and drawings and RA Attachment 7-3, Addendum A for hydrologic information pertaining to the soil borrow area.

RA ATTACHMENT 7-3, ADDENDUM A

TOPSOIL/SUBSOIL BORROW AREA

Borrow Area Hydrology

When the refuse pile is reclaimed some of the cover material will come from the soil borrow area. The soil borrow area will only be impacted during the short period during which the refuse pile is being reclaimed. Reclamation of the site will occur immediately after the required volume of soil has been removed. The soil borrow area is a little under a mile from the refuse pile. The site has a gentle 3 to 4% slope to the south towards an incised ephemeral channel flowing to the southeast. The site is dry with limited vegetation typical of the area, namely, sage brush and grasses. Climatological information for the area can be seen in Appendix 4-1 of the approved M&RP and in RA Attachment 7-5.

Soil in the area is easily erodible as demonstrated by the gullies running through the site with depths ranging between 6 and 20 feet. Gullies in the area are typically 8 to 10 feet deep. The 20 foot deep gully through the site indicates that soil has a depth of at least 20 feet. The following sections discuss how degradation of groundwater and surface water will be avoided during soil removal activities and reclamation.

Groundwater

The effect on groundwater from soil removal activities is expected to be minimal. No springs are evident at the soil borrow area or in areas upgradient of the soil borrow area. The deep gullies at the site are dry. Thus, it can be concluded that groundwater is at least below the deepest gully, which is approximately 20 feet deep. Thus, groundwater at the site is well below the 3 to 4 foot depth of soil to be removed from the site and therefore will not be encountered during soil removal activities. Based on the monitoring wells around the refuse pile the depth to groundwater in this area can be expected to be 30 to 40 feet below ground surface. Since the only activity at the site will be soil removal, there is very little potential for groundwater impact. Therefore groundwater quality will not be monitored.

Surface Water

All of the drainages in the vicinity of the soil borrow area are ephemeral in nature and only flow in response to large storm events and snow melt. Runoff from areas upgradient of the soil borrow area are collected into gullies before reaching the soil borrow area. These gullies convey runoff through the site with some runoff flowing into the gullies from the soil borrow area. The watershed upgradient of the site is less than 60 acres in size. Thus, the gullies at the site represent ephemeral drainages according to the definition of an ephemeral drainage in the regulations.

To protect the hydrologic balance, soil removal activities and reclamation activities will be conducted in a manner that prevents, to the extent possible, additional contributions of suspended solids to streamflow outside the permit area, and otherwise prevent water pollution. During soil removal activities and reclamation CFC will maintain adequate runoff- and sediment-control facilities to protect local surface waters.

Access to the soil borrow area will require the crossing of a channel. This channel flows only in

response to storm events or snow melt. A broad swale will be constructed to cross the drainage. Soil removal activities will only occur if the channel is dry. To facilitate removal of the soil and to reduce sediment from the swale, the swale may be covered with clean gravel. Soil removed to create the swale will be replaced to the extent possible during reclamation. However, the drainage has vertical sides in most places but the soil can only be replaced to a maximum slope of 2:1. The swale crossing will be reclaimed such that there are no sharp changes in slope or direction. The reclaimed slopes of the swale will be deep gouged and seeded following regrading The reclaimed channel will have the same bottom width as the undisturbed channel and will be composed of the same material as the rest of the channel. The undisturbed channel is composed of the same soil as that being removed with an occasional rock. The reclaimed swale will be more stable than the undisturbed channel due to the side slopes being laid back rather than being vertical.

During soil removal and reclamation activities a combination of sediment control methods will be used. Before commencing any soil removal activities silt fences will be installed down gradient of any areas to be disturbed. After installation of the silt fences the top twelve inches of soil will be pushed into berms around the site. These berms will contain runoff that falls within the borrow area and will divert upgradient runoff around the borrow area. The removal of 3 to 4 feet of soil from the site will, by the nature of the activity, create a depression that will contain the runoff from inside the soil borrow area. The silt fences will be maintained during soil removal activities to provide sediment treatment in addition to the berms and depression.

To minimize the impact to the site the soil will be removed from between the gullies running through the site. Thus, the current drainage pattern will not be impacted by soil removal activities. The gullies on either side of the soil borrow area are much deeper than the expected soil excavation depth. Therefore, after 3 to 4 feet of soil is removed, the site will be regraded to drain towards the one of the existing gullies. By removing soil in this manner no reclamation drainages will need to be constructed.

During reclamation the silt fences will be removed during final grading. Once the silt fences are removed the site will be deep gouged, mulched and seeded as soon as possible. The silt fences will not be removed if a storm is expected in the time between when the silt fences are removed and when the site can be deep gouged. Deep gouging has been demonstrated to be very effective at controlling sediment from reclaimed sites, especially from relatively flat sites such as this. The deep gouges will also promote revegetation of the site.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Soldier Creek Coal Company
Project ID:
Sample ID: BORROW AREA

ACZ Sample ID: *L57912-03*
Date Sampled: *07/25/06 10:35*
Date Received: *07/27/06*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP			*				08/02/06 15:36	erf

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	301			mg/L	0.2	1	08/12/06 0:40	wfg
Iron, dissolved	M200.7 ICP	0.02	B		mg/L	0.02	0.05	08/12/06 0:40	wfg
Iron, total	M200.7 ICP	2780			mg/L	0.5	1	08/13/06 23:47	wfg
Magnesium, dissolved	M200.7 ICP	69.5			mg/L	0.2	1	08/12/06 0:40	wfg
Manganese, dissolved	M200.7 ICP		U		mg/L	0.005	0.03	08/12/06 0:40	wfg
Manganese, total	M200.7 ICP	45.4			mg/L	0.1	0.6	08/13/06 23:47	wfg
Potassium, dissolved	M200.7 ICP	18.7			mg/L	0.3	1	08/12/06 0:40	wfg
Sodium, dissolved	M200.7 ICP	43.0			mg/L	0.3	1	08/12/06 0:40	wfg

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		98			mg/L	2	20	08/07/06 0:00	ct
Carbonate as CaCO3			U		mg/L	2	20	08/07/06 0:00	ct
Hydroxide as CaCO3			U		mg/L	2	20	08/07/06 0:00	ct
Total Alkalinity		98			mg/L	2	20	08/07/06 0:00	ct
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.7			%			08/14/06 0:00	calc
Sum of Anions		22.8			meq/L	0.1	0.5	08/14/06 0:00	calc
Sum of Cations		23.1			meq/L	0.1	0.5	08/14/06 0:00	calc
Chloride	M325.2 - Colorimetric	8		*	mg/L	1	5	08/02/06 15:52	jlf
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1700			mg/L	10	20	08/01/06 13:42	ct
Residue, Non-Filterable (TSS) @105C	M160.2 - Gravimetric	205000	H	*	mg/L	125	500	08/03/06 11:37	kmc
Sulfate	SM4500 SO4-D	980			mg/L	10	50	08/09/06 15:45	jlt
TDS (calculated)	Calculation	1480			mg/L	10	50	08/14/06 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.15						08/14/06 0:00	calc